

# SEQUENCE LISTING

<110> Kloting, et al.

<120> Use of the Multifunctional Transcription Factor Yin Yang 1 and Variants Thereof for Treating Illnesses, Especially Type I Diabetes

<130> 30572/41384

<150> PCT/EP03/014762

<151> 2003-12-19

<150> DE 102 61 650.7

<151> 2002-12-20

<160> 232

<170> PatentIn version 3.3

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<211> 2256

<212> DNA

<213> Rattus norv.

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<221> Promoter

<222> (1)..(72)

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<221> CDS

<222> (73)..(1125)

<223> YY1 (BB/OK)

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<221> misc\_feature

<222> (955)..(1125)

<223> Zinc finger

<220>

<221> Intron

<222> (1126)..(1758)

<220>

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<223> Zinc finger

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<221> CDS

<222> (1759)..(1938)

<223> YY1 (BB/OK)

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gagccctcag cc atg gcc tcg ggc gac acc ctc tac att gcc acg gac ggc 111

Met Ala Ser Gly Asp Thr Leu Tyr Ile Ala Thr Asp Gly

1 5 10

tcg gag atg cca gcc gag atc gtg gaa ctg cat gag att gag gtg gag 159

Ser Glu Met Pro Ala Glu Ile Val Glu Leu His Glu Ile Glu Val Glu

15 20 25

acc atc ccg gtg gag act atc gag acc acg gtg gtg ggc gag gag gag	207
Thr Ile Pro Val Glu Thr Ile Glu Thr Thr Val Val Gly Glu Glu Glu	
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gac gac gac gaa gac gac gag gat ggt ggc ggc gga gac cac ggt ggc	255
Asp Asp Asp Glu Asp Asp Glu Asp Gly Gly Gly Gly Asp His Gly Gly	
50 55 60	
ggg ggc ggc cac ggg cac gct ggc cac cac cat cac cac cac cac	303
Gly Gly Gly His Gly His Ala Gly His His His His His His His	
65 70 75	
cac cac ccg ccc atg atc gcg ctg cag ccg ctg gtc acc gac gac ccg	351
His His Pro Pro Met Ile Ala Leu Gln Pro Leu Val Thr Asp Asp Pro	
80 85 90	
acc caa gtg cac cac cac caa gag gtg att ctg gtg cag acg cgc gag	399
Thr Gln Val His His His Gln Glu Val Ile Leu Val Gln Thr Arg Glu	
95 100 105	
gag gta gtg ggt ggc gac gac tcg gac ggg ctg cgc gcc gag gac ggg	447
Glu Val Val Gly Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly	
110 115 120 125	
ttc gag gac cag atc ctc att ccg gta ccc gcg ccg gcc ggc gga gac	495
Phe Glu Asp Gln Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp	
130 135 140	
gac gac tac atc gag cag acg ctg gtc acc gtg gcg gcg gcc ggc aag	543
Asp Asp Tyr Ile Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys	
145 150 155	
agc ggt ggc ggg tct tcg tcg ggc ggc ggc cgc gtt aag aag ggc ggc	591
Ser Gly Gly Gly Ser Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly	
160 165 170	
ggc aag aag agc ggc aag aag agt tac ctg ggc agc ggc gcc ggc gcg	639
Gly Lys Lys Ser Gly Lys Lys Ser Tyr Leu Gly Ser Gly Ala Gly Ala	
175 180 185	
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Ala Gly Gly Gly Glu Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys	
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Gln Val Gln Ile Lys Thr Leu Glu Gly Glu Phe Ser Val Thr Met Trp	
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tct tca gat gaa aaa aaa gat att gac cat gaa aca gtg gtt gaa gag	783
Ser Ser Asp Glu Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu	
225 230 235	
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Gln Ile Ile Gly Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr	
240 245 250	
ggc aag aaa ctc cct cct gga ggg ata cct ggc att gac ctc tca gac	879
Gly Lys Lys Leu Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp	
255 260 265	
ccc aag caa ctg gca gaa ttt gcc aga atg aag cca aga aaa att aaa	927
Pro Lys Gln Leu Ala Glu Phe Ala Arg Met Lys Pro Arg Lys Ile Lys	
270 275 280 285	

gaa gat gat gct cca aga aca ata gct tgc cct cat aaa ggc tgc aca Glu Asp Asp Ala Pro Arg Thr Ile Ala Cys Pro His Lys Gly Cys Thr 290 295 300	975
aag atg ttc agg gat aac tct gct atg aga aag cat ctg cac acc cac Lys Met Phe Arg Asp Asn Ser Ala Met Arg Lys His Leu His Thr His 305 310 315	1023
ggt ccc aga gtc cac gtc tgt gca gaa tgt ggc aaa gcg ttc gtt gag Gly Pro Arg Val His Val Cys Ala Glu Cys Gly Lys Ala Phe Val Glu 320 325 330	1071
agc tca aag cta aaa cga cac cag ctg gtt cat act gga gaa aag ccc Ser Ser Lys Leu Lys Arg His Gln Leu Val His Thr Gly Glu Lys Pro 335 340 345	1119
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ggc tgc ggg aag cgc ttt tca ctg gac ttc aat ttg cgc acg cat gtg Gly Cys Gly Lys Arg Phe Ser Leu Asp Phe Asn Leu Arg Thr His Val 360 365 370	1818
cga atc cat acc gga gac agg ccc tat gtg tgc ccc ttc gac ggt tgt Arg Ile His Thr Gly Asp Arg Pro Tyr Val Cys Pro Phe Asp Gly Cys 375 380 385	1866
aat aag aag ttt gct cag tca act aac ctg aaa tct cac atc tta aca Asn Lys Lys Phe Ala Gln Ser Thr Asn Leu Lys Ser His Ile Leu Thr 390 395 400	1914
cac gct aaa gcc aaa aac aac cag tgaaaagaag agagaagacc ttctcgaccc His Ala Lys Ala Lys Asn Gln 405 410	1968
cggaagcct cttcaggagt gtgattggga ataaatatgc ctctcctttg tatattattt	2028
ctaggaagaa ttttaaaaat gaatcctaca cacttaaggg acatgttttg ataaagtagt	2088
aaaaatttaa aaaaatactt taataagatg acattgctaa gatgctctat cttgctctgt	2148

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<213> Rattus norv.

<220>  
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<223> Zinc finger

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<223> Zinc finger

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Pro Ala Glu Ile Val Glu Leu His Glu Ile Glu Val Glu Thr Ile Pro  
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Val Glu Thr Ile Glu Thr Thr Val Val Gly Glu Glu Glu Asp Asp Asp  
35 40 45

Glu Asp Asp Glu Asp Gly Gly Gly Gly Asp His Gly Gly Gly Gly Gly  
50 55 60

His Gly His Ala Gly His His His His His His His His His His Pro  
65 70 75 80

Pro Met Ile Ala Leu Gln Pro Leu Val Thr Asp Asp Pro Thr Gln Val  
85 90 95

His His His Gln Glu Val Ile Leu Val Gln Thr Arg Glu Glu Val Val  
100 105 110

Gly Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly Phe Glu Asp  
115 120 125

Gln Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp Asp Asp Tyr  
130 135 140

Ile Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys Ser Gly Gly  
145 150 155 160

Gly Ser Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly Gly Lys Lys  
 165 170 175  
 Ser Gly Lys Lys Ser Tyr Leu Gly Ser Gly Ala Gly Ala Ala Gly Gly  
 180 185 190  
 Gly Gly Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys Gln Val Gln  
 195 200 205  
 Ile Lys Thr Leu Glu Gly Glu Phe Ser Val Thr Met Trp Ser Ser Asp  
 210 215 220  
 Glu Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu Gln Ile Ile  
 225 230 235 240  
 Gly Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr Gly Lys Lys  
 245 250 255  
 Leu Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp Pro Lys Gln  
 260 265 270  
 Leu Ala Glu Phe Ala Arg Met Lys Pro Arg Lys Ile Lys Glu Asp Asp  
 275 280 285  
 Ala Pro Arg Thr Ile Ala Cys Pro His Lys Gly Cys Thr Lys Met Phe  
 290 295 300  
 Arg Asp Asn Ser Ala Met Arg Lys His Leu His Thr His Gly Pro Arg  
 305 310 315 320  
 Val His Val Cys Ala Glu Cys Gly Lys Ala Phe Val Glu Ser Ser Lys  
 325 330 335  
 Leu Lys Arg His Gln Leu Val His Thr Gly Glu Lys Pro Phe Gln Cys  
 340 345 350  
 Thr Phe Glu Gly Cys Gly Lys Arg Phe Ser Leu Asp Phe Asn Leu Arg  
 355 360 365  
 Thr His Val Arg Ile His Thr Gly Asp Arg Pro Tyr Val Cys Pro Phe  
 370 375 380  
 Asp Gly Cys Asn Lys Lys Phe Ala Gln Ser Thr Asn Leu Lys Ser His  
 385 390 395 400  
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 Met Ala Ser Gly Asp Thr Leu Tyr Ile Ala Thr Asp Gly  
 1 5 10  
 tcg gag atg cca gcc gag atc gtg gaa ctg cat gag att gag gtg gag 159  
 Ser Glu Met Pro Ala Glu Ile Val Glu Leu His Glu Ile Glu Val Glu  
 15 20 25  
 acc atc ccg gtg gag act atc gag acc acg gtg gtg ggc gag gag gag 207  
 Thr Ile Pro Val Glu Thr Ile Glu Thr Thr Val Val Gly Glu Glu Glu  
 30 35 40 45  
 gac gac gac gaa gac gac gag gat ggt ggc ggc gga gac cac ggt ggc 255  
 Asp Asp Asp Glu Asp Asp Glu Asp Gly Gly Gly Gly Asp His Gly Gly  
 50 55 60  
 ggg ggc ggc cac ggg cac gct ggc cac cac cat cac cac cac cac cac 303  
 Gly Gly Gly His Gly His Ala Gly His His His His His His His His  
 65 70 75  
 cac cac ccg ccc atg atc gcg ctg cag ccg ctg gtc acc gac gac ccg 351  
 His His Pro Pro Met Ile Ala Leu Gln Pro Leu Val Thr Asp Asp Pro  
 80 85 90  
 acc caa gtg cac cac cac caa gag gtg att ctg gtg cag acg cgc gag 399  
 Thr Gln Val His His His Gln Glu Val Ile Leu Val Gln Thr Arg Glu  
 95 100 105

gag gta gtg ggt ggc gac gac tcg gac ggg ctg cgc gcc gag gac ggg Glu Val Val Gly Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly 110 115 120 125	447
ttc gag gac cag atc ctc att ccg gta ccc gcg ccg gcc ggc gga gac Phe Glu Asp Gln Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp 130 135 140	495
gac gac tac atc gag cag acg ctg gtc acc gtg gcg gcg gcc ggc aag Asp Asp Tyr Ile Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys 145 150 155	543
agc ggt ggc ggg tct tcg tcg ggc ggc ggc cgc gtt aag aag ggc ggc Ser Gly Gly Gly Ser Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly 160 165 170	591
ggc aag aag agt ggc aag aag agt tac ctg ggc agc ggg gcc ggc gcg Gly Lys Lys Ser Gly Lys Lys Ser Tyr Leu Gly Ser Gly Ala Gly Ala 175 180 185	639
gcg ggc ggt ggc ggc gcc gac ccg ggt aat aag aag tgg gaa cag aag Ala Gly Gly Gly Gly Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys 190 195 200 205	687
cag gtg cag atc aag acc ctg gag ggc gag ttc tcg gtc acc atg tgg Gln Val Gln Ile Lys Thr Leu Glu Gly Glu Phe Ser Val Thr Met Trp 210 215 220	735
tct tca gat gaa aaa aaa gat att gac cat gaa aca gtg gtt gaa gag Ser Ser Asp Glu Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu 225 230 235	783
cag atc att ggg gag aac tca cct cct gat tat tct gaa tat atg aca Gln Ile Ile Gly Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr 240 245 250	831
ggc aag aaa ctc cct cct gga ggc ata cct ggc att gac ctc tca gac Gly Lys Lys Leu Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp 255 260 265	879
ccc aag caa ctg gca gaa ttt gcc aga atg aag cca aga aaa att aaa Pro Lys Gln Leu Ala Glu Phe Ala Arg Met Lys Pro Arg Lys Ile Lys 270 275 280 285	927
gaa gat gat gct cca aga aca ata gct tgc cct cat aaa ggc tgc aca Glu Asp Asp Ala Pro Arg Thr Ile Ala Cys Pro His Lys Gly Cys Thr 290 295 300	975
aag agg ttc agg gat aac tct gct atg aaa aag cat ctg cac acc cac Lys Arg Phe Arg Asp Asn Ser Ala Met Lys Lys His Leu His Thr His 305 310 315	1023
ggt ccc aga gtc cac gtc tgt gca gaa tgt ggc aaa gcg ttc gtt gag Gly Pro Arg Val His Val Cys Ala Glu Cys Gly Lys Ala Phe Val Glu 320 325 330	1071
agc tca aag cta aaa cga cac cag ctg gtt cat act gga gaa aag ccc Ser Ser Lys Leu Lys Arg His Gln Leu Val His Thr Gly Glu Lys Pro 335 340 345	1119
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tctcatttgc caagaggggtt gatattctggt ttttccttga cag tgc aca ttc gaa	1770
	Cys Thr Phe Glu 355
ggc tgc ggg aag cgc ttt tca ctg gac ttc aat ttg cgc acg cat gtg	1818
Gly Cys Gly Lys Arg Phe Ser Leu Asp Phe Asn Leu Arg Thr His Val	
	360 365 370
cga atc cat acc gga gac agg ccc tat gtg tgc ccc ttc gac ggt tgt	1866
Arg Ile His Thr Gly Asp Arg Pro Tyr Val Cys Pro Phe Asp Gly Cys	
	375 380 385
aat aag aag ttt gct cag tca act aac ctg aaa tct cac atc tta aca	1914
Asn Lys Lys Phe Ala Gln Ser Thr Asn Leu Lys Ser His Ile Leu Thr	
	390 395 400
cac gct aaa gcc aaa aac aac cag tgaaaagaag agagaagacc ttctcgaccc	1968
His Ala Lys Ala Lys Asn Asn Gln	
	405 410
cggaagcct cttcaggagt gtgattggga ataaatatgc ctctcctttg tatattattt	2028
ctaggaagaa ttttaaaaat gaatcctaca cacttaaggg acatgttttg ataaagtagt	2088
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aatctcgttt caaaaacaag gtgtttttgt aaagtgtggt cccaacagga ggacaattca	2208
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<220>  
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<222> (1759)..(1917)

<223> Zinc finger

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Val Glu Thr Ile Glu Thr Thr Val Val Gly Glu Glu Glu Asp Asp Asp  
35 40 45

Glu Asp Asp Glu Asp Gly Gly Gly Asp His Gly Gly Gly Gly Gly  
50 55 60

His Gly His Ala Gly His His His His His His His His His His Pro  
65 70 75 80

Pro Met Ile Ala Leu Gln Pro Leu Val Thr Asp Asp Pro Thr Gln Val  
85 90 95

His His His Gln Glu Val Ile Leu Val Gln Thr Arg Glu Glu Val Val  
100 105 110

Gly Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly Phe Glu Asp  
115 120 125

Gln Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp Asp Asp Tyr  
130 135 140

Ile Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys Ser Gly Gly  
145 150 155 160

Gly Ser Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly Gly Lys Lys  
165 170 175

Ser Gly Lys Lys Ser Tyr Leu Gly Ser Gly Ala Gly Ala Ala Gly Gly  
180 185 190

Gly Gly Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys Gln Val Gln  
195 200 205

Ile Lys Thr Leu Glu Gly Glu Phe Ser Val Thr Met Trp Ser Ser Asp  
210 215 220

Glu Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu Gln Ile Ile  
225 230 235 240

Gly Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr Gly Lys Lys  
 245 250 255

Leu Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp Pro Lys Gln  
 260 265 270

Leu Ala Glu Phe Ala Arg Met Lys Pro Arg Lys Ile Lys Glu Asp Asp  
 275 280 285

Ala Pro Arg Thr Ile Ala Cys Pro His Lys Gly Cys Thr Lys Arg Phe  
 290 295 300

Arg Asp Asn Ser Ala Met Lys Lys His Leu His Thr His Gly Pro Arg  
 305 310 315 320

Val His Val Cys Ala Glu Cys Gly Lys Ala Phe Val Glu Ser Ser Lys  
 325 330 335

Leu Lys Arg His Gln Leu Val His Thr Gly Glu Lys Pro Phe Gln Cys  
 340 345 350

Thr Phe Glu Gly Cys Gly Lys Arg Phe Ser Leu Asp Phe Asn Leu Arg  
 355 360 365

Thr His Val Arg Ile His Thr Gly Asp Arg Pro Tyr Val Cys Pro Phe  
 370 375 380

Asp Gly Cys Asn Lys Lys Phe Ala Gln Ser Thr Asn Leu Lys Ser His  
 385 390 395 400

Ile Leu Thr His Ala Lys Ala Lys Asn Asn Gln  
 405 410

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 Asp Thr Leu Tyr Ile Ala Thr Asp Gly Ser Glu Met Pro Ala Glu Ile  
 5 10 15 20

gtg gag ctg cat gag atc gag gtg gag acc atc ccg gtg gag acc atc Val Glu Leu His Glu Ile Glu Val Glu Thr Ile Pro Val Glu Thr Ile 25 30 35	150
gag acc acg gtg gtg ggc gag gag gag gag gag gac gac gac gac gag Glu Thr Thr Val Val Gly Glu Glu Glu Glu Glu Asp Asp Asp Asp Glu 40 45 50	198
gac ggc ggc ggc ggc gac cac ggc ggc ggc ggc ggc ggc cac ggc cac Asp Gly Gly Gly Gly Asp His Gly Gly Gly Gly Gly His Gly His 55 60 65	246
gcc ggc cac cac cat cac cac cac cac cac cac cac cac cac ccg ccc Ala Gly His His His His His His His His His His His His Pro Pro 70 75 80	294
atg atc gcg ctg gag ccg ctg gtg acg gac gac ccg acc caa gtg cac Met Ile Ala Leu Glu Pro Leu Val Thr Asp Asp Pro Thr Gln Val His 85 90 95 100	342
cac ctc cag gag gtg atc ctg gtg cag acg cgc gag gag gtc gtc ggg His Leu Gln Glu Val Ile Leu Val Gln Thr Arg Glu Glu Val Val Gly 105 110 115	390
ggg gac gac tcg gag ggc ctg cgc gcc gag gac ggc ttc gag gac gag Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly Phe Glu Asp Glu 120 125 130	438
atc ctc atc ccg gtg ccc gcg ccg gcc ggc ggc gac gac gac tac ata Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp Asp Asp Tyr Ile 135 140 145	486
gag cag acg ctg gtc acc gtg gcg gcg gcc ggc aag agc ggc ggc ggg Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys Ser Gly Gly Gly 150 155 160	534
gcc tcg tcg ggc ggc ggt cgc gtg aag aag ggc ggc ggc aag aag agc Ala Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly Gly Lys Lys Ser 165 170 175 180	582
ggc aag aag agt tac ctg ggc ggc ggc gcc ggc gcg gcg ggc ggc ggc Gly Lys Lys Ser Tyr Leu Gly Gly Gly Ala Gly Ala Ala Gly Gly Gly 185 190 195	630
ggc gcc gac ccg ggc aat aag aag tgg gag cag aag cag gtg cag atc Gly Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys Gln Val Gln Ile 200 205 210	678
aag acc ctg gag ggc gag tcc tcg gtc acc atg tgg tcc tcg gat gaa Lys Thr Leu Glu Gly Glu Ser Ser Val Thr Met Trp Ser Ser Asp Glu 215 220 225	726
aaa aaa gat att gac cat gaa aca gtg gtt gaa gag cag atc att gga Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu Gln Ile Ile Gly 230 235 240	774
gag aac tca cct cct gat tat tct gaa tat atg aca ggc aag aaa ctc Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr Gly Lys Lys Leu 245 250 255 260	822
cct cct gga ggc ata cct ggc att gac ctc tca gac cct aag caa ctg Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp Pro Lys Gln Leu 265 270 275	870



Val Glu Thr Ile Glu Thr Thr Val Val Gly Glu Glu Glu Glu Glu Asp  
 35 40 45

Asp Asp Asp Glu Asp Gly Gly Gly Gly Asp His Gly Gly Gly Gly Gly  
 50 55 60

Gly His Gly His Ala Gly His His His His His His His His His His  
 65 70 75 80

His His Pro Pro Met Ile Ala Leu Glu Pro Leu Val Thr Asp Asp Pro  
 85 90 95

Thr Gln Val His His Leu Gln Glu Val Ile Leu Val Gln Thr Arg Glu  
 100 105 110

Glu Val Val Gly Gly Asp Asp Ser Asp Gly Leu Arg Ala Glu Asp Gly  
 115 120 125

Phe Glu Asp Glu Ile Leu Ile Pro Val Pro Ala Pro Ala Gly Gly Asp  
 130 135 140

Asp Asp Tyr Ile Glu Gln Thr Leu Val Thr Val Ala Ala Ala Gly Lys  
 145 150 155 160

Ser Gly Gly Gly Ala Ser Ser Gly Gly Gly Arg Val Lys Lys Gly Gly  
 165 170 175

Gly Lys Lys Ser Gly Lys Lys Ser Tyr Leu Gly Gly Gly Ala Gly Ala  
 180 185 190

Ala Gly Gly Gly Gly Ala Asp Pro Gly Asn Lys Lys Trp Glu Gln Lys  
 195 200 205

Gln Val Gln Ile Lys Thr Leu Glu Gly Glu Ser Ser Val Thr Met Trp  
 210 215 220

Ser Ser Asp Glu Lys Lys Asp Ile Asp His Glu Thr Val Val Glu Glu  
 225 230 235 240

Gln Ile Ile Gly Glu Asn Ser Pro Pro Asp Tyr Ser Glu Tyr Met Thr  
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Gly Lys Lys Leu Pro Pro Gly Gly Ile Pro Gly Ile Asp Leu Ser Asp  
 260 265 270

Pro Lys Gln Leu Ala Glu Phe Ala Arg Met Lys Pro Arg Lys Ile Lys  
 275 280 285

Glu Asp Asp Ala Pro Arg Thr Ile Ala Cys Pro His Lys Gly Cys Thr  
 290 295 300

Lys Met Phe Arg Asp Asn Ser Ala Met Arg Lys His Leu His Thr His  
 305 310 315 320

Gly Pro Arg Val His Val Cys Ala Glu Cys Gly Lys Ala Phe Val Glu  
 325 330 335

Ser Ser Lys Leu Lys Arg His Gln Leu Val His Thr Gly Glu Lys Pro  
 340 345 350

Phe Gln Cys Thr Phe Glu Gly Cys Gly Lys Arg Phe Ser Leu Asp Phe  
 355 360 365

Asn Leu Arg Thr His Val Gly Ile His Thr Gly Asp Arg Pro Tyr Val  
 370 375 380

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Leu Arg Thr His Val Arg Ile His Thr Gly Asp Arg Pro Tyr Val Cys  
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Pro Phe Asp Gly Cys Asn Lys Lys Phe Ala Gln Ser Thr Asn Leu Lys  
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